seen. In 140 minutes between the hours noted, 70 *Leonids* were counted, 36 of these falling in the hour from $14^h\ 25^m$ to $15^h\ 25^m$. At $13^h\ 46^m\ 45^s \pm 2^s$ P. S. T., a magnificent *Leonid* lighted up the entire sky and threw strong shadows. My attention was diverted at the instant; so I leave further description of the meteor itself to others. The train, when seen, extended a little north of the line joining δ *Leonis* and 93 *Leonis*, with a bright, bluish-white smoke-cloud near the former star. For many minutes this cloud had all the appearance of a bright naked-eye comet. Gradually it became more diffuse, and drifted toward the south into a nearly horizontal position. At $14^h\ 12^m$ it extended from δ *Leonis* toward κ *Leonis*, the southern part being the denser. It was visible for nearly forty-five minutes altogether. Another brilliant green *Leonid*, several times as bright as *Sirius*, fell at $14^h\ 37^m\ 13^s \pm 5^s$ from a point a little north of β *Leonis* toward the eastern horizon. When it burst, it left a smoke-cloud —bluish-white—that was visible even in the thick haze for at least five minutes. Several other *Leonids* with long bright trains were seen—but only the two noted left smoke-clouds.

R. G. AITKEN.

November 17, 1898.

THE *LEONIDS* IN 1898.

The *Leonids* were observed and charted at the University of the Pacific, College Park, Cal., with the following results: November 12th, 14^h to $17^h\ 30^m$ P. S. T., 75 meteors were seen within 25° of the radiant, 64 of them being classified as *Leonids;* November 13, $13^h\ 40^m$ to $17^h\ 0^m$, 45 meteors, 37 being *Leonids;* November 14, $13^h\ 45^m$ to $15^h\ 15^m$, 34 meteors, 26 being *Leonids*. Clouds stopped the observations on the 14th, and prevented work on the 15th. On the 14th a count was also made by Mr. NORMAN TITUS, a student, at his home in West Side (numbers not given). My best night was Saturday, November 12th, though it would have been surpassed by Monday, the 14th, but for the fog—the average number of *Leonids* per hour on the two nights for the time of observation being 18 and 20, respectively.

H. D. CURTIS.